

CONTINGENT EXTENSION REQUEST

If this communication is filed after the shortened statutory time period had elapsed and no separate Petition is enclosed, the Commissioner of Patents and Trademarks is petitioned, under 37 CFR 1.136(a), to extend the time for filing a response to the outstanding Office Action by the number of months which will avoid abandonment under 37 CFR 1.135. The fee under 37 CFR 1.17 should be charged to our Deposit Account No. 50-2215.

REMARKS

All prior rejections have been withdrawn and a new rejection of all pending claims under 35 U.S.C. § 103 over Batting in view of Slifkin has been made. That rejection is respectfully traversed.

Before the present invention, conductive inks and coatings were primarily based on solvent or water borne-thermal evaporated drying or on 2-component cross linking technology. While those compositions had high conductivity, they were slow drying and not suitable for high speed printing presses, as well as having other disadvantages. Energy cure systems had been made but these typically have significantly higher resistivity and reduced conductivity values compared to solvent or water-borne evaporated drying products. To achieve improved conductivity, increased pigment loadings were required which increased cost, and had a significant effect on the rheology

and printability of the composition. The present invention is based, *inter alia*, on the discovery that the use of water-containing energy cure technology can resolve the problems of the prior art and enable the production of conductive inks which gave good print definition, adhesion and which can be applied usefully by a high speed printing presses. The invention is not taught or suggested by the prior art.

Batting teaches a photocurable ink containing photocurable material, photoinitiator and water. It does not, as the Examiner has acknowledged, teach or suggest any electrically conductive material be present.

Slifkin relates to an electrically conductive paste containing a chemical which contracts on polymerization and a spherical metal powder pigment. The reference teaches the metal powder must be spherical, metal flakes not being suitable, and the chemical must contract so that the spheres are compressed together to promote good electrical contact. The paste is cured by ultraviolet radiation to achieve a thick film which has been cured to about 95% and has significant resistivity. Therefore, a post-cure treatment is required to substantially reduce the resistivity. See the first paragraph on page 6. Note also that the Slifkin paste is non-aqueous.

The Office Action justifies the combination of the two references solely on the basis that they are "from the same field of endeavor, namely UV curable inks." However, it is always possible to define a field of endeavor so broadly as to make almost any combination justifiable under this rubric. More importantly, the number of combinations based sole on a "same field" approach is infinite, and as the MPEP points out, an obvious to try approach (which this is) is only permissible when the number of possibilities is finite. The "same field" justification ignores the requirements of Section 103, which is

whether it is obvious to combine reference 2 with reference 1. For example, does reference 2 provide a solution to a problem encountered by reference 1? This justification also ignores the differences between the references.

Here, the Batting patent is concerned with providing an ink suitable for decorating paper substrates which are mounted on surfaces using an aqueous adhesive. What problem does Batting have which may be addressed by anything in the Slifkin disclosure? None is discernable. Slifkin relates to totally different subject matter, namely, a paste which can be used to make a highly conductive thick film useful as an interconnective pattern in electronic circuits, as the Office Action points out. The Office Action asserts it would be obvious to use the Slifkin particles in Batting to make the Batting ink conductive. But that puts the cart before the horse – there is no reason to make the Batting ink conductive in the first instance.

There is no reason at all for the combination here other than fitting them into a template which is the claims under consideration. That is a retrospective approach and improper.

The Office Action acknowledges the claimed effects or physical properties are not taught by the references but asserts they would be implicitly achieved by a “composite” with all the claimed ingredients. Of course they are – that assertion is merely an observation that the claimed composition has its inherent properties. But here, neither of the references discloses the “composite”, i.e., the claimed composition, and thus neither implicitly discloses a composition which has those properties. Accordingly, the correct inquiry is whether there would be a reasonable expectation that those properties would be achieved if the combination was made, i.e., was it predictable? The Office Action does not

point to any reason it would be predicable and none has been found in the references. To the contrary, Slifkin teaches it is necessary to effect a post-cure in order to achieve the desired conductivity (top of page 6) but the claimed composition can achieve that result without a post-cure.

In view of the foregoing considerations, it does not appear necessary to comment on any other assertions made in the Office Action. Applicants respectfully submit that the rejection should be withdrawn and the pending application is in condition for allowance.

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Respectfully submitted,

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